

Name: _____

This review sheet is not comprehensive! Be sure to study your notes and homework assignments as well!!

- 1) What is the fourth term of the sequence defined by the formula $t_1 = 2a$, $t_2 = 3a - 1$, and $t_n = 2t_{n-1} - 3t_{n-2} + 1$ when $n \geq 3$?
 A) $-5a + 4$ B) -1 C) $-9a + 2$ D) $21a - 13$
- 2) What is the third term of the sequence defined by $t_1 = \frac{1}{3}$ and $t_n = 3t_{n-1} + 1$ when $n > 1$?
 A) 9 B) 7 C) 11 D) 5
- 3) What are the first three terms in the sequence whose general term is $t_n = \frac{2n}{n+1}$?
 A) $1, \frac{1}{2}, \frac{1}{3}$ B) $\frac{4}{3}, \frac{5}{4}, \frac{6}{5}$ C) $1, \frac{4}{3}, \frac{3}{2}$ D) $0, 1, \frac{4}{3}$
- 4) Find the fifth term of the sequence $-3, 6, -12, \dots$
 A) 48 B) -24 C) 24 D) -48
- 5) Determine the first three terms of the following sequence(s) given the recursive rule:

$$h_1 = 1 \text{ and } h_n = h_{n-1} + 2n - 1$$

- 6) Find the first five terms of the sequence defined recursively as follows: $t_1 = 1$, $t_n = 3t_{n-1}$, $n \neq 1$, n is a natural number
- 7) The sequence $1, -3, 9, -27$ is *best* described as
 A) neither arithmetic nor geometric C) both arithmetic and geometric
 B) arithmetic D) geometric
- 8) Which of the following sequences is geometric?
 A) 2, 3, 4, 5 B) 1, 2, 4, 8 C) 2, 4, 8, 12 D) 2, 3, 5, 7
- 9) What is the common difference in the arithmetic sequence $1, 1.25, 1.5, 1.75, \dots$?
 A) 0.25 B) 0.5 C) -0.5 D) -0.25
- 10) What is t_{16} of the sequence $2, 11, 20, \dots$?
 A) 140 B) 137 C) 128 D) 119
- 11) Find the n th term of the arithmetic sequence $-1, 2, 5, \dots$?
 A) $2n + 2$ B) $3n - 2$ C) $3n - 4$ D) $-2n + 1$

- 12) What is t_1 of the arithmetic sequence for which $t_5 = 24$ and $t_9 = 40$?
A) 6 B) 2 C) 8 D) 4
- 13) The common ratio for the geometric sequence $6, -2, \frac{2}{3}, \dots$ is
A) 1 B) $\frac{1}{3}$ C) -3 D) $-\frac{1}{3}$
- 14) What is t_{11} for the geometric sequence $3,072, -1,536, 768, -384, \dots$?
A) 3 B) 6 C) 0.5 D) 12
- 15) What is t_1 for the geometric sequence for which $t_8 = -3,584$ and $t_3 = 112$?
A) 2 B) 28 C) -2 D) -28